

REMARKS/ARGUMENTS

1) Remarks Concerning Amendments to the Specification

In the specification, a paragraph has been added to include details of the parent application of this continuation application.

The amendment to the paragraph beginning at line 34 of page 11 reflects an amendment made in Applicant's correspondence of June 12, 2003 in U.S. Patent Application Serial no. 10/178,345.

2) Remarks Concerning the Claims

New claims 1 to 25 are submitted in the accompanying continuation application.

During prosecution of the U.S. Patent Application Serial No. 10/178,345, claims 2-4, 22 to 34, 36 to 41 and 44 were amended in Applicant's correspondence of June 12, 2003 and subsequently allowed in a Notice of Allowability mailed August 25, 2003. Claims 1, 5 to 21, 35, 42, 43, and 45 to 48 were cancelled with traverse and without prejudice. Claims 1 to 25 presented herewith, correspond substantially to the previously cancelled claims, with amendments to former claims 1, 35 and 42.

In the response of June 12, 2003, Applicant presented grounds for traverse of the Examiner's rejection of claims 1, 5-21, and 35 of the parent application of this continuation application. For the convenience of the Examiner, the grounds for traverse of the rejection of claims 1, 5-21, 35, 42, 43 and 45-48 of US Application 10/178,345 are presented below with reference to the corresponding claim number in the newly submitted claims.

i) 35 U.S.C. 102(b) – Test for Anticipation

In the Examiner's view, claims 1, 5, 6 and 9 (new claims 1, 2, 3 and 6) were anticipated under 35 U.S.C. 102(b) by US Patent 5,294,076 to Colting.

(A) Statement of the Law

Anticipation can only be established by a single prior art reference: “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); *Structural Rubber Products Co., v. Park Rubber Co.*, 749 F.2d 7070; 223 U.S.P.Q. 1264 (C.A.F.C. 1984). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The test for anticipation requires that all of the claimed elements must be found in exactly the same situation and united in the same way to perform the same function in a single unit of the prior art. *Studiengesellschaft Kohle, m.b.H. v. Dart Industries., Inc.*, 762 F.2d 724, 726, 220 U.S.P.Q. 841 at 842 (C.A.F.C. 1984). Anticipation cannot be predicated on teachings in a reference that are vague or based on conjecture. *Datascope Corp. v. SMEC Inc.*, 594 F. Supp. 1036; 224 U.S.P.Q. 694, 698 (D.N.J. 1984).

(B) Applicant's Submissions

The Examiner states that “One of the units 44 of Colting is considered to constitute a propulsion and directional apparatus while the other is deemed to constitute a boundary layer suppression element.”

As a preliminary matter, the Applicant has not claimed a “boundary layer suppression element” in claim 1. The Applicant has recited a “boundary layer separation suppression element”. The Applicant notes that in the current rejection under 35 USC 102, the Examiner has not identified “a boundary layer separation suppression element” in the cited art. On that basis alone, the Applicant traverses the rejection as having failed to demonstrate at least one feature of the claim in the reference that is currently presented as being anticipatory, contrary to the requirements of the law as set forth in *Verdegaal Bros.*, supra.

Further, even if the Examiner had identified one of units 44 as being a “boundary layer separation suppression element”, rather than a “boundary layer suppression element”, the

Applicant respectfully submits that there is no support in the Colting patent for the Examiner's statement. There is nothing in Colting's description, or in the illustrations to indicate that either of propulsion units 44 is intended to be, or could be employed, alone, as "propulsion and directional apparatus co-operable to conduct" the aircraft. The election by the Examiner to characterise one or the other as one type of device, and the other as something different is arbitrary, and appears to have been made without a demonstration of any support in the document.

Further, there does not appear to be anything in Colting's description or illustrations that even vaguely refers to boundary layer separation suppression. As noted above, the test for anticipation requires that "all of the claimed elements must be found in exactly the same situation and united in the same way to perform the same function in a single unit of the prior art." The applicant respectfully submits that there is nothing in Colting that shows, describes or suggests that unit 44 is found in the same situation, is united in the same way, or performs the same function as the claimed "boundary layer separation suppression element". As far as the applicant can see, there is, in fact, no mention of boundary layer separation at all in Colting, let alone its suppression.

Further still, the Examiner has not identified anything in Colting's description or illustrations that in any way identifies unit 44 as a "boundary layer separation suppression element", nor has the Examiner identified anything in the reference to support such a characterisation. The Applicant respectfully submits that such characterisation is entirely a matter of unsupported, and possibly unsupportable, conjecture on the part of the Examiner. Anticipation cannot be established on the basis of conjecture. (See *Datascope Corp.*, supra).

Each of the foregoing reasons would be sufficient, alone, to demonstrate that the rejections under 35 USC 102 in view of Colting are not well founded.

ii) 35 U.S.C. 103(a) – Obviousness

In the Examiner's opinion, several claims were obvious and were rejected under 35 U.S.C. 102(b). The Examiner rejected claims 7, 8, 10-12, 18, 20 and 21 in light of US Patent 5,294,076 to Colting, claim 13 in light of Colting in view of US Patent 6,371,409 B1 to Steele, claims 14-17, 19, and 35 in light of Colting in view of US Patent 5,115,997 to Peterson, and claims 42, 43, 45-48 in view of US Patent 6,427,943 B2 to Yokomaku et al.

(A) Statement of the Law

(1) MPEP Section 2142: Basic Requirements of a *Prima Facie* Case of Obviousness

Section 2142 of the Manual of Patent Examining Procedure (MPEP) states:

ESTABLISHING A *PRIMA FACIE* CASE OF OBVIOUSNESS

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the Applicant's disclosure. *In re Vaeck*, 947 F. 2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

(2) Mere Possibility of Combination is Not Sufficient

Section 2143.01 of the Manual of Patent Examining Procedure (MPEP) states:

FACT THAT REFERENCES CAN BE COMBINED OR MODIFIED IS NOT SUFFICIENT TO ESTABLISH *PRIMA FACIE* OBVIOUSNESS

"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)

(3) Must Have Teaching, Suggestion, or Incentive to Combine

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention *absent some teaching, suggestion or incentive* supporting the combination *ACS Hospital Systems Inc. v. Montefiore Hospital*, 732 F. 2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir.). See also *In re Lee*, (Case No. 00 – 1158 CAFC, January 18, 2002).

Cited in *In re Geiger*, 815 F.2d at 688, 2 USPQ 2d at 1268 (Fed. Cir. 1987) (Emphasis added).

Obviousness cannot be established by combining references without also providing objective evidence of the motivating force that would impel one skilled in the art to do what the patent Applicant has done (See *In Re Lee, supra*; see also *Ex Parte Levengood*, 28 USPQ2d 1300, 1302 (Bd. Pat. App. & Inter. 1993)).

(4) Inquiry Must Present a Convincing Line of Reasoning

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. “To support the conclusion that the claimed invention is directed toward obvious subject matter, either the references must expressly or impliedly, suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex Parte Clapp*, 227 USPQ972, 973 (Bd. Pat. App. & Inter. 1985) (Emphasis added).

...
When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. *Ex Parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986).”

(5) Inquiry Must Be Thorough And Searching

“The factual enquiry whether to combine the references must be thorough and searching. Id., It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. ...

“The need for specificity pervades this authority. See e.g.,

“*In re Kotzab* 217 F. 3d 1365, 1371, 55 USPQ 2d 1313, 1317 (Fed. Cir. 2000) (“particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.”);

In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ 2d 1453, 1459 (Fed. Cir. 1998 (“even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.”);

In re Fritch, 972 F. 2d 1260, 1265, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992)

(The examiner can satisfy the burden of showing obviousness of the combination “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references”).”

(See *In re Lee*, cited above. Emphasis and paragraph division added.)

Conclusory statements by an examiner do not adequately address the issue of motivation to combine. – *In re Lee, supra*.

(6) “Would have been obvious to one skilled in the art”

The MPEP requires that the examiner provide an objective source of support for a contention that a feature is known or obvious to one skilled in the art. An unsupported statement that a feature or combination “would have been obvious to one skilled in the art” is improper if made without support. *In re Lee, supra*, and *In re Garrett* 33 BNA PTCJ 43.

A statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made because references relied upon teach that all aspects of the claimed invention were individually known in the art” is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993). See also *Al-site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide suggestion to combine references).

(7) Destruction of Function

“If proposed modifications would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

(B) Applicant's Submissions

(1) Claims 7, 8, 10-12, 18, 20 and 21 (new claims 4, 5, 7-9, 15, 17 and 18, respectively) in light of US Patent 5,294,076 to Colting

The Examiner states that “The rotational speed of the propeller of unit 44 of Colting as well as the addition of a generator, fuel replenishment element for in-flight refueling, cowling,

and remote control element – although not disclosed on the Colting airship – would have been obvious to one skilled in the art wishing to provide it with greater range and “hover time”.”

The Applicant respectfully traverses the Examiner’s assertion. At the very least, to the extent that each of these claims depends from claim 1, and the rejection of claim 1 is not well founded, as discussed above, all of the claims dependent from claim 1 are also not properly rejected.

Further, the Law requires that the Examiner demonstrate motivation, suggestion, or incentive to make the modification or combination proposed in the rejection. The applicant respectfully submits that, contrary to *In Re Lee*, there has been no such demonstration. The applicant respectfully requests that the Examiner demonstrate, for instance, where there has ever been an example of an in flight refuelling system for a buoyant aircraft such as claimed by the applicant.

(2) Claim 13 (new claim 10) in light of US Patent 5,294,076 in view of US Patent 6,371,409 to Steele

The Examiner states that “While the Colting airship does not include solar cell panels, it would have been obvious to employ solar panels with the Colting airship, in view of the patent to Steele that the panels can be employed to power onboard electrical equipment.”

As noted above, at the very least, and if not for other reasons, to the extent that claim 13 depends from claim 1, and the rejection of claim 1 is not well founded, the rejection of claim 13 is also not well founded.

(3) Claims 14-17, 19, and 35 (new claims 11 to 14, 16 and 19, respectively) in light of US Patent 5,294,076 in view of US Patent 5,115,997 to Peterson

The Examiner states that “It would have been obvious to employ surveillance equipment including radar with the Colting airship, in view of the patent to Peterson that this permits the

airship to perform the useful military and research observations from a significant altitude above the earth.”

As noted above, at least to the extent that previous claims 14 to 17 and 19 depend from claim 1, and the rejection of claim 1 is not well founded, the rejections of claim 14 to 17 and 19 are also not well founded.

Further, the Applicant respectfully submits that the Examiner has failed to meet the test for obviousness as required under MPEP 2142 and set forth above. The test requires a demonstration of a suggestion, motivation, or incentive to make the combination proposed by the Examiner. The Applicant respectfully submits that not only has no such motivation, suggestion or incentive been demonstrated by the Examiner, but further, that to make the combination as suggested by the Examiner is to destroy Peterson’s invention, contrary to *In re Gordon*, supra. That is, Peterson claims “a tethered balloon”. (See *e.g.*, Peterson claims 1-27). Previous claims 14 to 17, 19 and 35 are for an aircraft that has a propulsion and direction control apparatus for conducting the aircraft. This is contrary to the concept of a tethered balloon. The applicant respectfully submits that nothing in the office action demonstrates why a person skilled in the art would be inclined to incorporate the seemingly contradictory design features of a tethered balloon into the design of an aircraft that has a propulsion and direction control apparatus.

Previous claim 35 (new claim 19) has been amended to incorporate the features of previous claim 36, which the Examiner allowed. The applicant respectfully submits that new claim 19 should thus be found allowable.

iii) Claims 42, 43, 45 to 48 (new claims 20, 21, 22 to 25 respectively) in light of US Patent 6,427,943 to Yokomaku

The Examiner had rejected previous claims 42, 43 and 45 to 48 of US Patent Application 10/178,345 as being obvious in light of Yokomaku et al. According to the Examiner, the degree of initial inflation of buoyant gas envelope 20 of the Yokomaku et al stratospheric airship and the

altitude it attains would have been obvious to one skilled in the art wishing to attain the highest possible altitude consistent with the goals of the airship.

New claim 20 pertains to a substantially spherical aircraft. The applicant can find no reference in US Patent 6,427,943 to a spherical airship and nothing to suggest that Yokoyamu et al contemplated any airship other than a cigar-shaped airship. The applicant respectfully requests that the Examiner withdraw the rejection under 103(a).

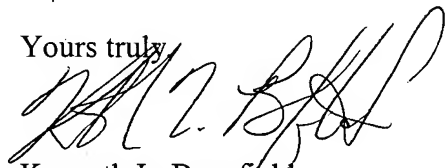
3) Conclusion

In view of the arguments presented above and amendments to the application, the Applicant submits that the claims presented herewith are in a condition to permit allowance. Therefore, the Applicant requests early and favourable disposition of this application.

The Examiner is invited to contact the undersigned by telephone at (416) 863-3080 to discuss this case further, if necessary.

Date: NOVEMBER 21st, 2003

Yours truly,



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